



PATENT  
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of )  
ADIEL ABILEAH )  
For: DAY/NIGHT BACKLIGHT FOR )  
A LIQUID CRYSTAL DISPLAY) Examiner:  
Serial No.: ) Group Art Unit:  
Filed: concurrently ) Atty Dkt No.: 2190.430

Honorable Commissioner of Patents and Trademarks  
Washington, D.C. 20231

INFORMATION DISCLOSURE STATEMENT  
PURSUANT TO 37 CFR § 1.56 AND §1.97

Sir:

In compliance with Applicants' duty of disclosure set forth in 37 CFR 1.56 and pursuant to the provisions of 37 CFR 1.97, et seq., Applicant files the following Information Disclosure Statement:

1. The concept of providing a liquid crystal display device with day and night modes of operation in a backlighting arrangement was known prior to my invention as set forth in this application. For example, others have attempted to use either two light sources or two separate driving circuits (i.e., two ballast circuits) to achieve a better dimming for day/night operations. However, it is believed that the particular combination of elements which make up the claimed day/night mode backlighting arrangement of the present invention is new.

2. Liquid crystal display devices represented by Figure 5 of commonly-assigned U.S. Patent No. 5,161,041 were sold one year prior to the filing date of this application. Such units, however, did not have an infrared filter in them, were not compatible for use with night vision goggles, and did not include a second separate night mode light source.

3. The following prior art references are brought to the attention of the Examiner. A copy of each of these references is enclosed.

I. Patents

United States

5,161,041  
5,128,783  
4,984,872  
4,936,659  
4,915,479  
4,798,448  
4,768,096  
4,704,004  
4,660,936  
4,616,295  
4,456,336  
4,171,874

France

2,471,012

Great Britain

2,198,867

Japan

0,066,862  
0,110,422

II. Additional References

A. Articles

1. Abileah et al., "A Full Color AMLCD with NVG Class B Compatibility" IEEE AES Magazine (March, 1992) pp. 1237-1241.

2. Abileah et al., "Practical Aspects of AMLCD Application".
3. Abileah et al., "Full Color Display with Amorphous Silicon PIN Diodes for High Performance Applications" Proc. SPIE Vol. 1080, pp. 174-182 (1/89).
4. Abileah, et al., "Performance of Full Color Active-Matrix-LCD in the Cockpit Environment" Proc. SPIE Vol. 1117, pp. 131-141 (3/89).
5. Abileah, et al., "8" x 8" Full Color Cockpit Display" IEEE AES Magazine, pp. 3-6 (9/90).
6. "3M Scotch™ Optical Lighting Film Application Bulletin - Thin Light Box", Preliminary, November 1988.
7. "3M Scotch™ Optical Lighting Film General Theory", Preliminary, November 1988.
8. "Polarized Backlight for Liquid Crystal Display", IBM Technical Disclosure Bulletin, Vol 33, No. 1B, June 1990.

B. Military Standard MIL-L-85762A

C. Brochures

1. DUREL™ Electroluminescent Lamps, Rogers Corporation, 1987
2. Loctite Luminescent Systems, Inc., 1990
3. Electroluminescent Lighting, NEC Corporation
4. PERMA-LIGHT™ Solid State Electroluminescent Lamps, The Quantex Corporation

The above-listed references are documents which speak for themselves. The Examiner is invited to review the content of the references and arrive at his own conclusions.

It is respectfully submitted, however, that Applicant's invention defines patentable subject matter over the teachings of the above-discussed references, alone or in any

combination thereof. Accordingly, favorable action on this application is respectfully requested.

A completed form PTO-1449, delineating the above-discussed references, is enclosed.

This Disclosure Statement, filed in accordance with 37 CFR 1.97, should not be construed as a representation that a search has been made, or that no other material information, as defined in 37 CFR 1.56(a), exists.

Respectfully submitted,

March, 11, 1993  
Date

Adiel Abileah  
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